

Dynamic On-Chip micro Temperature and Flow Sensor for miniaturized lab-on-a-chip instruments (DOCFlaTS)

Completed Technology Project (2013 - 2014)



Project Introduction

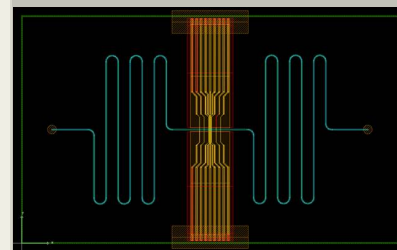
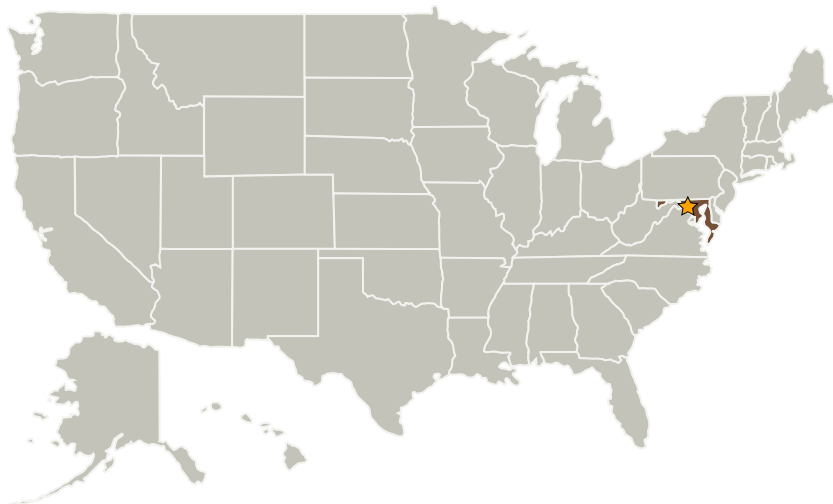
The purpose of this project is to design, fabricate, and characterize a Dynamic On-Chip Flow and Temperature Sensor (DOCFlaTS) to mature and enable miniaturized lab-on-a-chip microfluidic instruments for a future missions to planetary satellites and primitive bodies.

We will design a temperature and flow sensor that will be compatible with other NASA funded micro fluidic systems. This design is a proof-of-concept sensor that has the ability to sense temperature and flow rate changes. Furthermore, this can be calibrated using macro-scale systems.

Anticipated Benefits

Other Microfluidic Analytical System

Primary U.S. Work Locations and Key Partners



Dynamic On-Chip micro Temperature and Flow Sensor for miniaturized lab-on-a-chip instruments Project (DOCFlaTS)

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Organizations Performing Work	Role	Type	Location
★ Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

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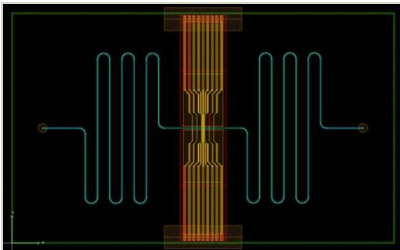
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Primary U.S. Work Locations

Maryland

Images



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Dynamic On-Chip micro Temperature and Flow Sensor for miniaturized lab-on-a-chip instruments Project (DOCFlaTS) (<https://techport.nasa.gov/image/4018>)

Project Website:

<http://sciences.gsfc.nasa.gov/sed/>

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Manager:

Terry Doiron

Principal Investigator:

George Manos

Co-Investigators:

Michael P Callahan
Manuel A Balvin

Technology Areas

Primary:

- TX10 Autonomous Systems
 - └ TX10.4 Engineering and Integrity
 - └ TX10.4.1 Verification and Validation of Autonomous Systems